Academia

Creating a Game-Based Coding Tool for Children

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Information systems

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Introducing

- Build an educational game runing on an Arcade Console
- Compete in teams: Inge’s Team vs My Team
- Focus on Model C Schools

PROBLEM STATEMENT

- Many primary schools lack access to interactive coding tools
- Kids lack digital literacy skills
- Lack of interest in STEM fields
- Existing tools like Scratch require internet and modern devices
- Grade 3 learners often struggle with text-based code

Opportunity

- Teach 9-year-olds computational thinking through play
- Give them an early introduction to coding logic
- Provide a low-cost, accessible, and offline tool for schools
- Prepare kids for higher education or jobs
- Coding has become a necessity.

SOLUTION

- Build a drag-and-drop game running on an Arcade console
- Offline functionality
- Teach kids how to code
- Designed for 9 to 10 year olds
- Early coding education

Macro and Micro forces

Macro Forces

1.Economic Environment

2.Political Environment

3.Social Environment

Micro Forces

1.Compitution

2.Suppliers

Funtional Requirment

- Role selection
- Feedback
- Main Menu
- Scoring and Prohgression
- Profile Management
- Input handeling(ease of use)

TECHNOLOGY USED

Python

Pygame

Raspberri Pi

Buttons and Joystick

WHY THIS MATTERS!!

- Must be user-friendly – designed for 9-year-olds
- Must be fun and intuitive – kids learn best through play
- Should work without internet access
- Teachers do not have coding experience.

CHALLENGES

- Educational
- Easy to use (user-friendly for 9-year-olds)
- New
- Block-style coding
- Size

THANK YOU!!

ANY QUESTIONS?